

ABSTRACT OF THE DISCLOSURE

A semiconductor device has a semiconductor substrate,
5 and a multi-layered wiring arrangement provided thereon. The
multi-layered wiring arrangement includes at least one
insulating layer structure having a metal wiring pattern
formed therein. The insulating layer structure includes a
first SiOCH layer, a second SiOCH layer formed on the first
10 SiOCH layer, and a silicon dioxide (SiO_2) layer formed on the
second SiOCH layer. The second SiOCH layer features a carbon
(C) density lower than that of the first SiOCH layer, a
hydrogen (H) density lower than that of the first SiOCH layer,
and an oxygen (O) density higher than that of the first SiOCH
15 layer.